

****ATTENTION****

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Deer of Washington

The deer is undoubtedly the most familiar big game animal of North America. Now widely distributed, deer first came onto the continent over fifteen million years ago. They adapted and survived periods of glaciers and of severe drought, out living many mammals including the saber-toothed tiger.

Today, the deer of Washington include the whitetailed deer of north-eastern counties, a cousin called the Columbian whitetail found in a limited area of southwestern Washington, the Rocky Mountain mule deer of eastern counties, and the closely related Columbian blacktail of western Washington. These four kinds of deer comprise a state herd of about 400,000 animals, blacktails making up about half of this total. Mule deer are second in abundance.

The number of blacktails in Washington has varied greatly over the years. Early day logging, with the very large clearcuts and burning, brought blacktails up to peak numbers in the

1930's and 40's. With the extensive clear cuts and urban population growth, this species has shown a gradual decrease in number since that time. Still, there are far more deer in the state today than were present when the first white man arrived. Deer find their food in relatively open areas, and are not abundant in thick, old growth stands of timber. Thus, logging and clearing activity by man served to increase deer until too much forest cover was removed through timber harvest.

PHYSICAL CHARACTERISTICS

A deer is a delicate looking creature whose shape is familiar to nearly everyone. They vary from reddish brown to gray in color, and stand about as high as a man's waist. Their senses are fairly well developed—good binocular vision, an acute sense of hearing, and extreme sensitivity to any movement seen. The deer's sense of smell is very acute.

The male has antlers which are shed each year. Antlers are a solid, bony structure that begin growth in April or May. They are first covered with a velvety membrane highly charged with blood vessels, and this membrane will bleed if cut. The antlers are fully grown by September, at which time the velvet is shed and the antlers polished. The buck carries the antlers through the fall and usually drops them in January, when they become food for the rodents of the woods.

Deer antlers, along with size and weight of a deer, provide a good indication of health; but it is impossible to tell the age of a deer from its antlers. As a general rule, bucks start to develop their first true antlers when 10 months old, and nearly all blacktails will grow spikes as yearlings. The majority of healthy yearling whitetails and mule deer bucks will grow forked antlers as yearlings but they are very small.

Deer in Washington

MULE DEER

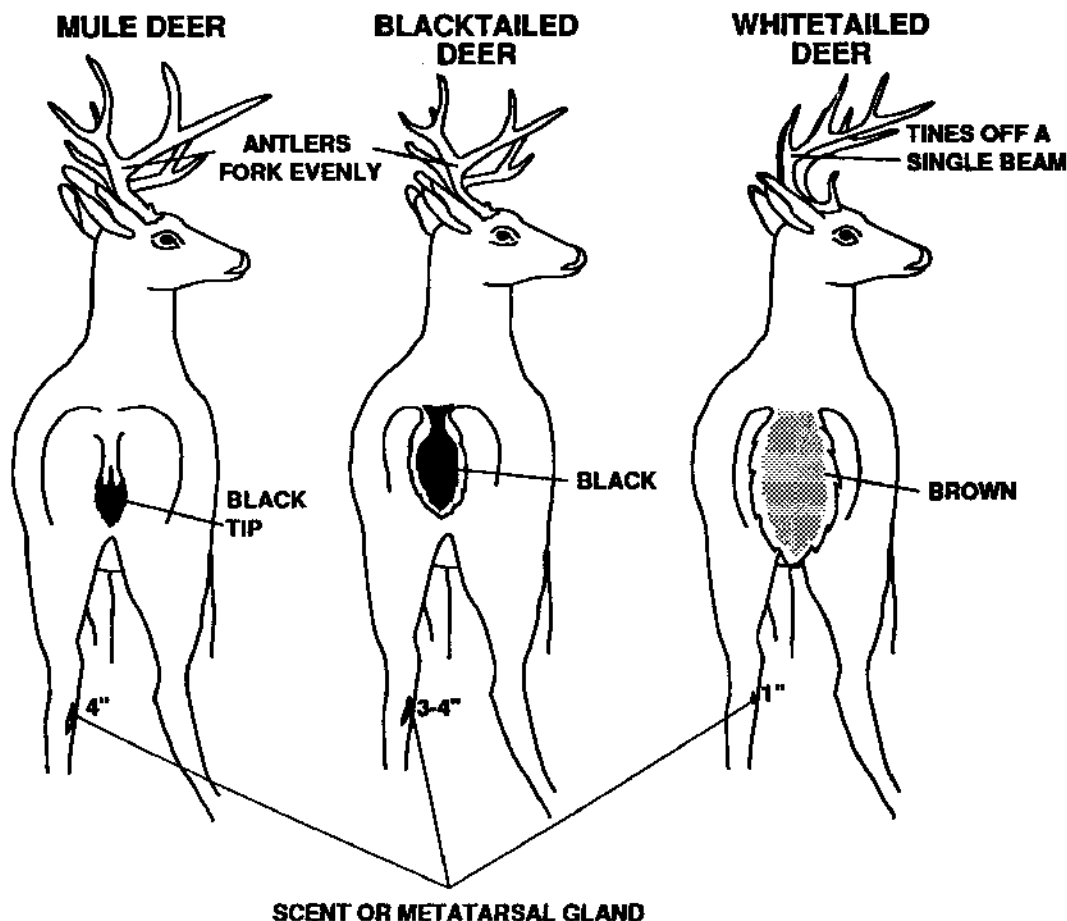
The mule deer is found along the eastern slopes of the Cascades, and throughout all of Eastern Washington. Antlers are like those of blacktail except they are usually larger and have more points for the same age class. Most yearling bucks are not spikes (as are blacktail) but are two-point bucks. Metatarsal or scent glands on the lower back leg are approximately four inches long. Main identification features of the mule deer are its narrow white tail with a black tip, rebranching antlers, and large metatarsal glands.

BLACKTAILED DEER

Blacktailed deer are found throughout Western Washington. The antler, like those of the mule deer, consists of a main beam that gives rise to a brow tine and then is evenly forked. Yearling blacktail typically have only spike antlers. In older bucks the antlers fork and then refork to form four or more antler points. The main identification feature of blacktail is this deer's namesake. Its tail is completely black on top, with the possible exception of a small white tip. Holding its tail erect when running, like the whitetail, hunters often spot white hair on the underside of the tail and mistakenly refer to this deer as a "whitetail". Another identification clue is the metatarsal or scent glands on the lower back legs which are 3-4 inches long.

WHITETAILED DEER

Whitetails are Washington's least abundant deer. The Northwest Whitetail is found primarily in the northeastern part of the state. A subspecies, the Columbian whitetailed deer, occurs in limited numbers along lower Columbia River bottom lands near Cathlamet. This deer is identified by its large tail, the topside of which is reddish-brown, but the underside is white. The whitetail possesses the largest tail of all the deer, being exceptionally long, white and bushy. Antlers do not fork, but all tines rise from a single main beam. Metatarsal or scent glands on the lower back legs are only one inch long.



Deer in Washington

DEER ANTLER DEVELOPMENT

Wildlife biologists have found that there is a direct relationship between antler growth and the availability of high quality foods. This is one of the reasons that the largest trophy racks consistently come from certain areas of the state.

Antlers pictured here were taken from one blacktailed deer at different ages as part of studies carried out by Department of Wildlife biologists. As shown by the picture, the number of antler points does not correspond with the age of the deer.

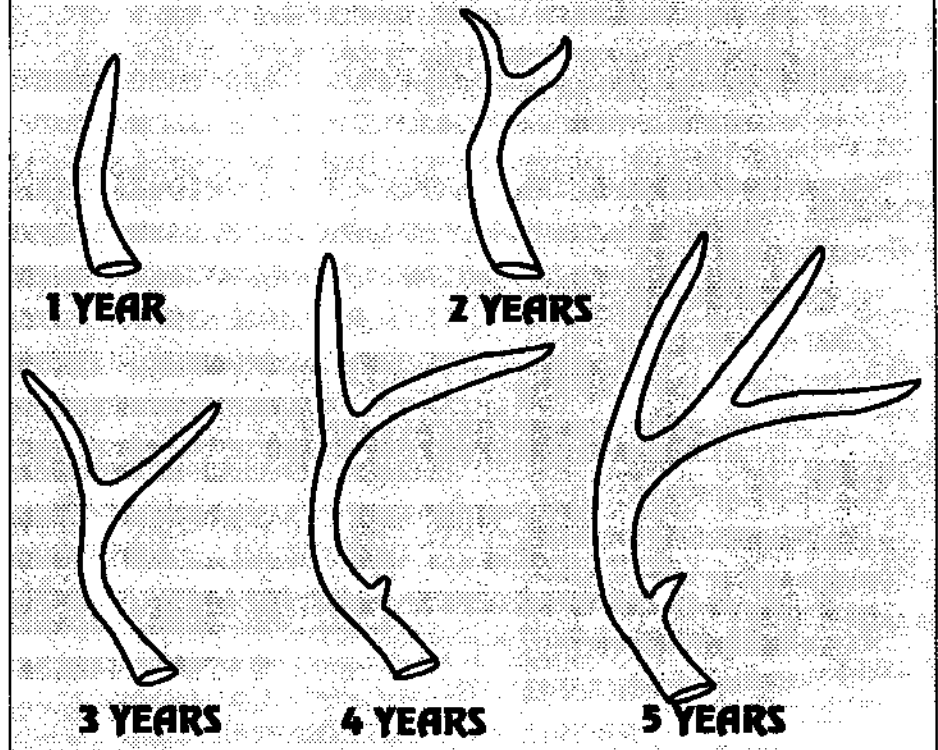
In addition, some animals have fewer antler points one year than in a previous year. It is generally true, however, that age increases the diameter of the antlers and usually the spread.

DETERMINING THE AGE OF DEER

The most accurate method of determining age of deer is by examination of its teeth. Deer antlers do not "add" an extra point each year. In fact, quantity and quality of food supply are the determining factors in the size of the deer's headgear.

Deer and elk, like horses and humans, have "milk" or baby teeth, and permanent teeth. Deer lose these baby teeth at predictable times, making examination of tooth structure an accurate age estimation method. Without too much trouble, you can learn to tell the age of a deer which is under two years old by noting the number of milk teeth that have been replaced by permanent teeth. Over two years, an experienced observer can determine approximate age by the amount of wear on the teeth. As the animal gets older, certain teeth discolor first. Discoloration of teeth and general state of "wear" are guides in helping to

ANTLER DEVELOPMENT OF A BLACKTAIL



determine the age of your elk or deer. Precise age determination of adult deer is done by sectioning incisor teeth. Laboratory analysis of the teeth show annual rings that can be used to determine a deer's age.

Sub-species of North American deer vary widely as to height and weight. The largest deer found in the West are mule deer. The Washington whitetail sub-species is called the Northwest whitetail. Other than the rare Columbian Whitetail deer found near Cathlamet, blacktail are Washington's smallest deer.

AGE CLASSES OF DEER

Fawn - Birth to one year of age

Yearling - From one year to two years of age

Adult - over two years of age

Prime - three to six years of age

Old - seven years and older

FOOD

The main food items of deer are what is called browse—mostly the growing tips of woody, brushy plants. They have strict diet requirements for minerals and other nutrients, and their diet varies greatly through the year.

Some of the plants commonly eaten by deer in Eastern Washington are bitterbrush, buckbrush, aspen and alder, cedar, vine maple, and huckleberry. In Western Washington, trailing blackberry is an important food item, as is the abundant salal. In late winter and early spring most deer include grass in their diet. In different areas, deer show their adaptability by changing their diet to correspond with plant availability. This is most evident in the different diets of west side and east side deer.

Summer is the time of easy living for deer. There is plenty of food and the animals are not crowded. They may graze lightly on summer grasses, but seem to prefer wandering through the

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woods and brushlands randomly nipping annual forbs, small twigs, leaves and buds. Through the summer and fall the deer feed heavily, and reach top weight in October. From January to March, however, their food intake is about half the normal summer consumption. As a normal occurrence, the animals lose weight and then their physical condition deteriorates through this period.

Spring, for the deer, arrives in March or April. At this time there is a changeover in diet to grasses. The does are bearing fawns in May and June, and this added nutritional demand coupled with the diet change make these months the most critical physiological period. Normally, death from malnutrition occurs in deer more in late March and April than during the bleak, cold, food-shortage months of winter.

The importance of the winter and spring weather and habitat conditions is underscored by the realization that 10 well-fed does will produce at least as many fawns as will 15 half-starved does.

MOVEMENT

Deer are most active in early morning and evening hours. They also are inclined to feed during the night. Most of a deer's movements are in finding a suitable area in which to feed. In Western Washington the individual blacktail deer will usually wander around in an area no bigger than one square mile. A non-migratory blacktail may spend its entire life in just such a small area. During the part of the day and night when they rest, deer select cover which offer protection from the weather and enemies.

The longest movements made by deer are in Eastern Washington during the spring and fall migrations. Mule deer occupying the foothills and lower mountain areas merely migrate to valleys and spend the winter at the base

of the hills. Animals summering in the Cascade Mountains, however, may have as far as 40 miles to migrate, and many deer make semi-annual trips of 20 or 30 miles.

The first heavy snows in the fall begin to move the deer down from the high country. In this migration, deer are inclined to stop and spend the winter in the first area they come to where snow depth permits getting around and finding food. Spring migrations are slower than the fall movement; deer start moving up in late March and follow the "green-up" behind the receding snow line. By the last of May, when fawning begins, the deer have reached some chosen valley part way up the mountain where they remain while fawns gain strength. Then in June and July, deer of the Cascades gradually work their way up into the highest ranges and remain there until forced down by cold or snow in October or November.

It is on the winter range that deer are most crowded. In much of Eastern Washington, a deer finds one acre of winter range for each fifteen or twenty acres of summer range. And so it is on winter and spring-fall range that individual food plants receive heaviest use. Nature—with little mercy for overabundance—has established that deer numbers cannot long exist beyond the number of animals that can be well fed on these critical ranges. At the same time, nature allows a deer in good condition to lose up to 30% of its body weight during the winter. In this condition, the deer is quite vulnerable to mortality factors and pregnant does may abort their fetuses. The lowest point in a deer's weight normally comes during the last of February, or at the time when the winter breaks.

Lack of annual movement can also work against the deer. In Western Washington the non-migratory deer use food plants on an area nearly year-

round. In the low-elevation dry areas of Eastern Washington, late summer may be a critical period for the deer, as many shrubs drop in food value when not receiving adequate moisture. This is seldom a problem, however, in the higher areas.

An overabundant deer herd will decrease eventually. But most important, an overpopulation limits future numbers by damaging the range. Once overused, browse plants take a long time to recover, and in the meantime the range cannot support as many animals as it should. Thus, that movement, weather, plants, and deer numbers are closely tied together.

PRODUCTION

Research has found that antler growth, body weight, general health, movement and numbers of deer are greatly influenced by that most critical factor—food. Deer production is also influenced by food.

The birth process for deer begins in the fall. Adult bucks are in breeding condition from September to as late as February, but the majority of the does are bred in their first heat cycle in November. Does not bred in their first heat cycle will go through another cycle in 22-28 days. If the doe is one and a half years-old when bred, she can expect to bear a single fawn. If the doe is older and in good condition, she can expect twins or, rarely, triplets. The gestation period usually runs 199 to 204 days, nearly seven months, and most fawns are born in late May or early June.

The deer fawn starts life at five to eight pounds, and larger fawns have better survival. Slightly over 50 percent of the fawns born are males. For nearly two months the fawns nurse heavily several times daily. At two or three weeks of age, or even younger, the fawns start adding tender browse and grass to their diet. Fawns are fully

Deer in Washington

weaned by three and a half months, and grow rapidly. Some healthy bucks on good range may reach weights of 80 pounds when 6 months old, and by fall some fawns are hard to tell from the one and a half year-old animals.

Adult bucks take no part in raising the fawns. Many older males remain solitary through the summer when growing antlers are soft and sensitive. Adult bucks are separated from the doe/fawn groups for most of the year. Family groups of deer seen usually consist of one or more does with their fawns, and perhaps a young buck. Groups of young bucks may be seen running together through much of the year. By September, the antlers are developed and mature bucks remain on the fringes of family groups. Buck deer never collect and protect a harem of females like bull elk. In late December and January the antlers are dropped and the sexes get together on winter ranges, although older bucks may remain apart even at this time.

DEATH

In the natural mortality of deer, starvation figures as the number one factor, followed by parasites and disease, with predation third in importance. Deer are also subject to accidents—the automobile taking its toll—functional disorders, fire, drowning,

death in combat, and hunters. Free-running dogs are one of the most important deer predators, but predation by man takes a larger share. Cougars and coyotes kill some deer; bobcats kill deer occasionally. It is an obvious fact that in a stable deer herd annual loss must equal annual reproduction. And it does. As with most wild animals, very few deer die of old age.

Summer mortality of adult deer is insignificant, but nearly half of all fawns born usually die the first few months of life. It is not unusual for summer fawn losses to make up 50 percent of all deaths suffered by the entire deer herd for the whole year. In a hard winter, half the fawns left after hunting season may die. A normal winter is estimated to remove 10 percent of the deer population present at the start of the winter. Much of the winter loss is of fawns, because the youngest animals go into the winter with little stored fat, smaller size and less vigor than adult deer.

One of the most important population-controlling factors for deer is a decline in herd reproductive rate, which is related to the food supply problem. Reproductive rate drops with vegetational changes and results in population declines. Vegetational change may be

due to overuse of the range, or a natural succession of change in plant communities. Characteristically, adult does on good deer range average two fawns per year, and does on poor range produce a single fawn or none at all.

In the spring of each year, deer populations—blacktail, whitetail or mule deer—increase 25-35 percent in numbers. Normally hunters harvest about 12 percent, and it is easy to see why the deer are able to withstand this harvest. Each parcel of land, if it has the necessary food, cover and water, is able to support a certain number of deer. Normally, if one factor—hunting, disease, or starvation—removes a bigger percentage of deer one year, other mortality factors remove a smaller percent that year. The number of deer remaining is based on the critical need in shortest supply, which is usually forage.

If deer are at low population levels, more forage is available. That usually means better quality forage is available and herd health improves. Reproductive rates may increase to the 35 percent level or above. The hunter stimulates productivity and more deer in future years by harvesting some each year—a general principle which is true whether the hunter is man or a cougar.

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Deer in Washington

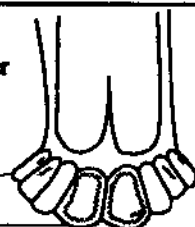


DETERMINING DEER AGE BY TEETH

FAWN

All 4 incisors on each side of lower jaw are deciduous or "baby teeth".

4 milk incisors on each side



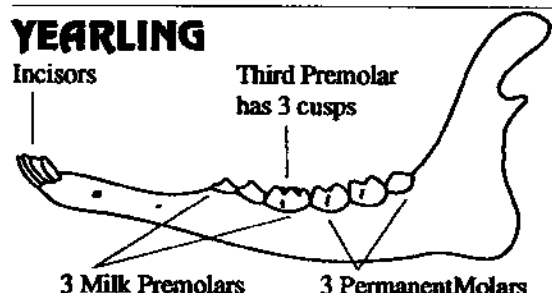
YEARLING

Incisors

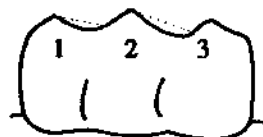
Third Premolar has 3 cusps

3 Milk Premolars

3 Permanent Molars

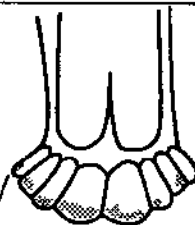


3 Cusps



Third Milk Premolar

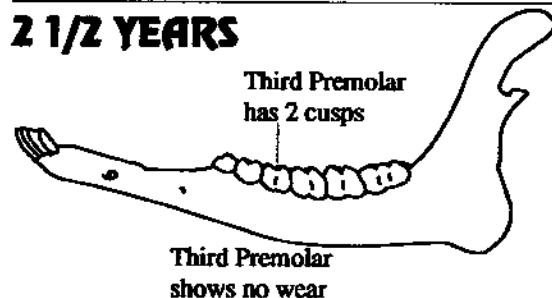
Possibility of one remaining milk incisor



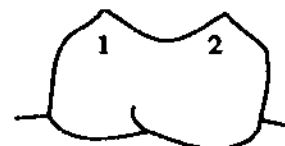
2 1/2 YEARS

Third Premolar has 2 cusps

Third Premolar shows no wear



2 Cusps

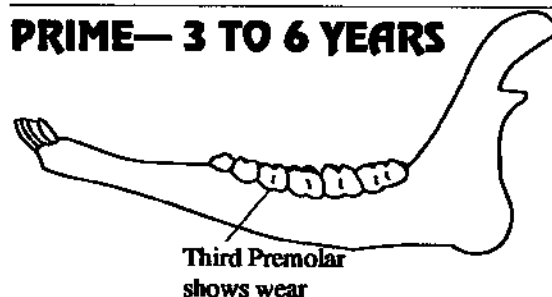


Third Permanent Premolar

All teeth are permanent.

PRIME— 3 TO 6 YEARS

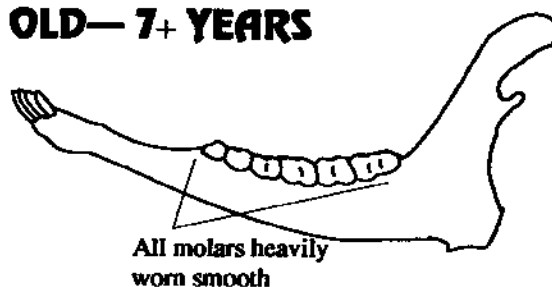
Third Premolar shows wear



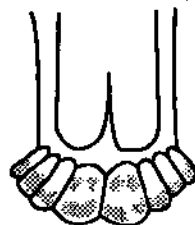
All teeth are permanent.

OLD— 7+ YEARS

All molars heavily worn smooth



All teeth are permanent.



All incisors heavily worn